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PATENT # 10

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Pat. No. 5,109,414

Serial No.: 588,126

Date of Issue: April 28, 1992

Name of Patentee: John C. Harvey, et al.

Title of Invention: SIGNAL PROCESSING APPARATUS AND METHODS

Commissioner of Patents and Trademarks  
Washington, D.C. 20231

**PRIOR ART CITATION UNDER 37 CFR 1.501  
TO BE PLACED IN PATENT FILE**

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1. Attached please find

☐ a list

☒ copies

of prior art under 37 CFR 1.501 in respect of the above identified patent.

2. ☒ A copy of every patent or printed publication relied upon is submitted herewith including a listing thereof on Form PTO-1449.

☐ An English language translation of all necessary and pertinent parts of non-English language patents or printed publications is included.

3. The above art bears on the patentability of all of the claims as follows:

U.S. Patent No. 4,814,883 To Perine et al., discloses a commercial insertion system which includes a control center for generating commercial inserts and one or more remote units at remote cable head ends which receive the commercial inserts and insert the same into the programmed channels, e.g. ESPN, LIFE, TNN.

The commercial insertion system includes, at a control center, a source of commercial inserts and a processor for generating various command signals based upon monitoring a plurality of programmed channels signals on a per channel basis. A stream of commercial insert video signals and the command signals are sent via a satellite up link to regional cable systems generally grouped as East Coast stations and West Coast stations.

normally. The absence of a control signal disables the receiver. In an alternative embodiment, the McVoy system uses audio control signals of low frequencies to activate another control circuit. McVoy is not relevant to applicants' invention because it discloses nothing about the use of control signals to operate a multiple input/output switch.

AB. United States Patent No. 3,798,610 issued on March 19, 1974 to Burt E. Bliss et al (Bliss) discloses a two-way information processing network connecting a host computer and a subordinate processing terminal. The host computer and terminal communicate bi-directionally with each other, via a modem, transmitting raster scanned-video signals with interlaced lines of data and control signals. The Bliss patent is not relevant to the invention of the present application because it discloses nothing about the detection of control signals for use in switching multiple inputs among multiple outputs.

AC. United States Patent No. 3,833,757 issued on September 3, 1974 to Donald Kirk, Jr. et al. (Kirk) discloses a bilateral cable communication system which distributes commercial and supplementary video programs to spaced subscriber stations, using converter apparatus located at each station for viewing at a standard television receiver. The Kirk patent teaches nothing about the use of control signals to operate a multiple input/output switch.

AD. United States Patent No. 3,842,196 issued on October 15, 1974 to Bernard D. Loughlin (Loughlin) discloses a system for the transmission of an add-on signal in a color television signal. Within same frequency, the add-on signal is made of opposite polarity so that, when detected, information

is cancelled in the display image. The Loughlin patent teaches nothing about the use of control signals to operate a multiple input output switch.

AE. United States Patent No. 3,845,391 issued on October 29, 1974 to Murray G. Crosby (Crosby) discloses the use of a signal embedded in the audio frequency subcarrier of a television or radio transmission. The embedded signal is an identification code for a specific broadcast program which actuates receiver station apparatus to detect and record the embedded code signal. The Crosby patent does not disclose (1) the detection of control signals to operate a switch or (2) decoding an instruction in an embedded signal to control switch equipment which responds to the detected code. Therefore, Crosby is not considered relevant to applicants' invention.

AF. United States Patent No. 3,891,792 issued on June 24, 1975 to Hisao Kimura (Kimura) discloses a system for super-imposing printed characters on a received television image at the discretion of the viewer of the received program. In the Kimura system, a plurality of video alpha-numeric character programs are transmitted sequentially in a television transmission. The receiver at the subscriber site can display a video character transmission by manual selection of one or more of the character programs. The viewer manually selects the program he wishes to view by a switch. The Kimura system does not have means of detecting an embedded signal to perform this functions. Kimura does not use a control signal to operate a switch as in applicants' invention.

AG. United States Patent No. 3,975,583 issued on August 17, 1976 to Talmadge W. Meadows (Meadows) discloses a

cable television distribution system in which a pre-empt system network is used for interrupting the normal distribution of cable television signals. The Meadows patent is not relevant to applicants' invention because it does not disclose any method for coding/decoding a control signal for use in switching network.

AH. United States Patent No. 3,987, 398 to Paul J. Fung (Fung) discloses a remote controlled disconnect-reconnect tap for a cable television system. The Fung tap includes means for receiving and detecting tone pairs modulated on a carrier. The tap is responsive to specific tones for disconnecting or reconnecting the subscriber's line to the system. The Fung patent is not relevant to applicants' invention because it discloses nothing about the use of control signals to operate a multiple input/output switch.

AI. United States Patent No. 4,025,851 issued on May 24, 1977 to Donald E. Hazelwood et al. (Hazelwood) discloses a monitoring system including a microprocessor wherein a signal embedded in a television network transmission causes apparatus at a plurality of remote sites to store data in a change format. The Hazelwood system collects data based on changes in the transmitted broadcast program. The Hazelwood patent is not relevant to applicants' invention because it does not disclose control signal detection for the use in a multiple input/output switching network.

AJ. United States Patent No. 4,138,726 issued on February 6, 1979 to Herve Girault et al. (Girault) discloses an airborne arrangement for displaying a moving map. Girault is totally irrelevant to applicants' invention.

AK. United States Patent No. 4,230,990 issued on October 28, 1980 John G. Lert, Jr. et al. (Lert) discloses an automated system for identifying broadcast programs wherein a pattern recognition process is combined with a signaling event to act as a trigger signal. The Lert patent discloses nothing about the use of control signals to operate a multiple input/output switch.

AA'. United States Patent No. 4,264,925 issued April 28, 1981 to Michael J. Freeman et al. (Freeman) discloses a system in which a plurality of video signals which are different but related to each other in information content are transmitted simultaneously on separate portions of a cable television transmission. In Freeman, each viewer station has interface apparatus which can be switched to receive the video of a selected portion of transmission. The viewer can manually select by means of a key the signal which he wishes to view. The Freeman patent is not relevant to applicants' invention because its information is not processed automatically by means of control signals which operate a multiple input/output switch.

AB'. United States Patent No. 4,310,854 issued January 12, 1982 to Ralph Baer (Baer) discloses a converter/decoder means for converting an input television channel to a predetermined output channel. The Baer decoding means is connected to the converter at the output for decoding selected output channel. Baer uses a comparison circuit which compares a signal within the television signal with authorization data to perform its enabling function. Baer is not relevant to applicants' invention because it does not use control signals to operate a multiple input/output switching system.

AC'. United States Patent No. 4,323,922 issued April 6, 1982 to Pieter den Toonder et al. (den Toonder) discloses a converter/decoder means for converting any input television channel to a predetermined output channel. The den Toonder decoding means is connected to the converter means at its output and acts to decode selected output channels by means of a comparison circuit which compares a signal within the television signal with authorization data to perform an enabling function. The den Toonder patent is not related to applicants' invention because it does not disclose the use of control signals to a multiple input/output switching system.

AD'. United States Patent No. 4,334,242 issued June 8, 1982 to Hans Mangold (Mangold) discloses the use of a television receiver as a picture display terminal. The Mangold network system receives commands to adjust the functions of other devices in conjunction to the television receiver. Mangold is not relevant to applicants' invention because it does not disclose a method of decoding control signals to operate a multiple input/output switch.

AE'. United States Patent No. 4,337,480 issued June 29, 1982 to Lucien Bourassin et al. (Bourassin) discloses a system for connecting one television receiver to a selected source of a plurality of a peripheral home audio-visual signal sources. In Bourassin, the viewer manually inputs instructions which cause microprocessor controlled switches to allow viewer selection. Bourassin is not relevant to applicants' invention because it does not use control signals to operate a multiple input/output switching system.

AF'. United States Patent No. 4,381,522 issued April 26, 1983 to Trevor Lambert (Lambert) discloses a

selective viewing system with a computer as a program scheduler. The system is activated by manually inputting information via telephone as to the individual television programs desired for viewing. This system is not relevant because it does not use control signals to operate a multiple input/output switch.

AG'. United States Patent No. 4,425,581 issued January 10, 1984 to Darrell L. Schweppe et al. (Schweppe) discloses a system where signals are generated by output devices only and transmitted to a pulse generator which, in turn, generates control signals for a computer. Schweppe is not relevant to applicants' invention because it does not use control signal to operate a multiple input/output switch.

AH'. United States Patent No. 4,488,179 issued December 11, 1984 to H. Ecklard Kruger et al. (Kruger) discloses a system for displaying on a television screen signals produced from output devices such as video players, video games or signals from video or cable television. The Kruger programmable control stage microprocessor responds to control signals encoded in the broadcast signals to provide control of output devices. Kruger is not relevant to applicants' invention because it does not use a control signal detection to program and operate a multiple input/output switching system as claimed by applicants.

During the prosecution of Patent Application Serial Nos. 317,510, filed November 3, 1981; 829,531, filed February 14, 1986 and 096,096 filed September 11, 1987 which issued as United States Patent Nos. 4,694,490; 4,704,725 and 4,955,823 respectively, the following patents were cited which

applicants consider totally irrelevant to the present claims as their disclosure is irrelevant to applicants' switching invention.

3,668,307

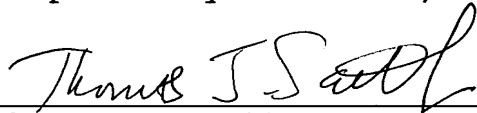
4,218,698

4,347,532

4,706,282

The claims presented in the application are patentable and should be allowed.

Respectfully submitted,



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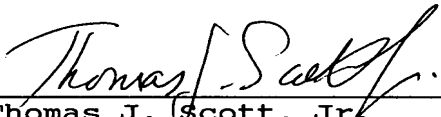


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I hereby certify that the attached INFORMATION DISCLOSURE STATEMENT is deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to:

The Commissioner of Patents and  
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Washington, D.C. 20231

Dated: February 14, 1991

  
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INFORMATION DISCLOSURE CITATION

(Use several sheets if necessary)

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USPN  
5,109,414

APPLICANT John C. Harvey, et al.

FILING DATE
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## U.S. PATENT DOCUMENTS

[illegible]

FOREIGN PATENT DOCUMENTS

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OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)												
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EXAMINER

DATE CONSIDERED.

\*EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.